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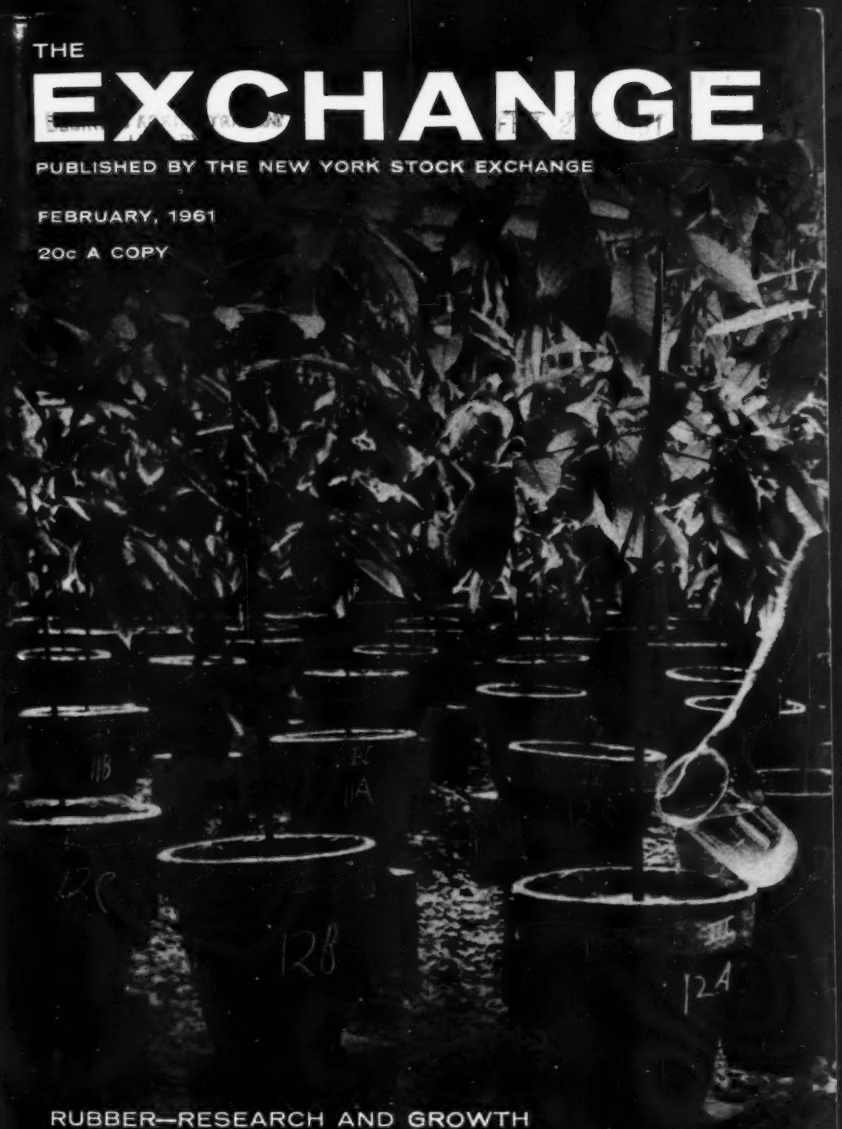

RUBBER—RESEARCH AND GROWTH

INVESTORS AND THE ATOMIC ENERGY INDUSTRY

ODD LOT INVESTORS—RIGHT OR WRONG?

INVESTORS ABROAD

WHEN H. Yamaji of Nagoya, Japan, retired as a bank cashier in 1955, he invested his retirement payment of 500,000 yen, equal at that time to about $1,500, in 5,000 shares of Toyota Motors at 100 yen a share.

He immediately put the torch to his stock certificates.

Mr. Yamaji, it seems, is a man who had more confidence in the future of Toyota, Japan's largest automaker, than in his ability to resist the temptation of a short-term profit. With the certificates out of the way—it takes two to three weeks to get them replaced—he settled down to the role of a long-term investor.

(A word to the wise: Don't try this with stock certificates of U. S. companies; it's painful and costly to replace them.)

Mr. Yamaji's investment technique may be unique, but more and more of Mr. Yamaji's compatriots—between 3 and 4 million at latest estimate—are investing in shares of Japanese business.

In Japan, as in many other parts of the Free World, broadening mass investment, which has played so important a part in our own development, is assuming a growing role in the economy, according to a recent study by the Stock Exchange.

In Australia, South America, Asia and in bustling Western Europe efforts to encourage mass ownership of shares are making headway.

In West Germany, a number of government-owned companies are being transferred to wide public ownership. Last month, 60 per cent of the government-owned Volkswagen, maker of the beetle-shaped cars so familiar to Americans, was sold to the public. It was expected this alone would add a million shareholders to the rolls. It is estimated that prior to the Volkswagen sale, there were already a million shareowners in West Germany, up 100 per cent since 1958.

Stock ownership in Japan has undergone a six-fold increase since the war. The ideals of "People's Capitalism," advanced in the U. S. by the Stock Exchange, have been employed by Japanese securities dealers as part of a vigorous advertising and educational campaign. Investment trusts—similar to mutual funds and closed-end funds—had combined assets of $1.2 billion as of January, 1960.

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RUBBER— GROWTH BASED ON RESEARCH

By GEORGE R. VILA, *President*
United States Rubber Company

AMERICA'S rubber industry is 122 years old, dating back to the invention of vulcanization in 1839. If this fact suggests an industry settled in its ways, an industry lacking the potential for vigorous growth, then consider this additional fact: Since 1940 the rubber industry's sales have soared more than 500 per cent.

This statistic is an indicator of the dramatic change which has swept through the rubber industry in America since 1940, the year in which the industry went into production of all-purpose synthetic rubber. The success of this project —a wartime team effort of the rubber, chemical and petroleum industries — provided rubber companies with a vital tool for growth: A broad raw materials base.

As evidence of the major face-change the industry has undergone over the last two decades, here are just a few of the new products that will be made during 1961 in rubber industry plants—in addition to 127 million tires for all types of land and air vehicles:

- Solid fuel, motor housings and nose cones for missiles.
- Plastics able to withstand the searing heat of atmosphere re-entry.
- Chemicals that will rid the Midwest's soybean fields of weeds — even before these weeds pop above ground.
- Pressure suits for man-in-space projects.
- Flexible tanks for underwater fuel caches.
- Synthetic elastic textiles for form-clinging bathing suits.
- Plastic pipe for thousands of miles of water, gas and chemical lines, free of corrosion.

Rubber products, of course, are the major items of the industry. During 1961 it will make about 40,000 different rubber products. But from the industry's 1,800 plants throughout the United States

George R. Vila joined United States Rubber Co. in 1936. During World War II, he was research and development manager for synthetic rubber where he pioneered in the development of experimental types of synthetic. In 1945 he visited Germany and his mission obtained much of the fundamental information on cold synthetic rubber which subsequently brought significant improvements in tire tread wear.

He was elected a vice president of U.S. Rubber and named general manager of Naugatuck Chemical, a U.S. Rubber division, in 1957. Later that same year he was given responsibility for the international, textile and plantation divisions of U.S. Rubber as well as Naugatuck Chemical. He was elected a director and president of U.S. Rubber in 1960.

will also come plastics, chemicals, textiles, and metal products. Sales of the industry in 1961 will exceed $6 billion, compared to $1 billion in 1940, the year in which it entered its synthetic age.

To understand the impact of synthetic rubber on the industry, it is useful to know: (1) What a rubber product is, and (2) The general outline of the rubber supply situation.

Calling a product "rubber" is somewhat of a misnomer, for if it were purely rubber it probably wouldn't be a product. The validity of this apparently ambiguous statement was firmly established back at the turn of the 19th century, when the embryonic rubber industry attempted to sell products made solely of rubber. When rubber boots became sticky in the heat of summer and brittle when the temperature dipped below freezing, sales resistance stiffened.

In 1839 Charles Goodyear blended rubber and sulfur, then accidentally cooked the mixture and invented the process of vulcanization. Having learned that heat and chemicals were needed to make rubber usable, rubber manufacturers later discovered that textiles could be used to give rubber products dimensional stability and added strength. The modern rubber product—usually a blend of rubber, chemicals and textiles—began to evolve from this point.

When the auto appeared and set in motion the first major expansion wave in the rubber industry, rubber companies used this trio of raw materials to supply the rising need for tires, belting and hose. But as business boomed in the 1910-1920 period, and new rubber fabricating capacity was constructed, the industry felt the first pangs of a painful problem that was to hamper it until the 1940's.

That problem was the natural rubber price and supply situation. Mounting rubber usage in the United States and, on a lesser scale, overseas began to place a strain on the output of the Far East's rubber plantations. To ease the situation, American rubber companies began rubber plantation

operations on their own in Malaya and Sumatra. But even in the early 1920's, it was obvious that if the rubber industry in America was to have the capacity for growth, it had to sever the link which fettered it to natural rubber.

Out of the Lab

The first synthetic rubber experiments in the United States were conducted in our laboratories about 1920. Synthetic rubber moved out of the laboratory in the 1930's when a few specialty types, with oil resistance superior to natural rubber, were put into limited commercial production.

The threat of war in the late 1930's, followed by the disruption of rubber supply lines, made the need for synthetic rubber urgent in 1940. The early laboratory experience and limited production knowledge then became the foundation on which America's synthetic rubber industry was created.

Goal of this wartime project was a general-purpose synthetic rubber that could replace natural in all but a few critical applications. By 1955, when the government-owned synthetic plants were sold to private owners, at a $22 million profit to taxpayers, the industry had developed several types of synthetics which could outperform the natural material in specific applications. Tire tread stock capable of 20 per cent more mileage than natural rubber is a case in point.

The advent of synthetic rubber also lessened the dependance of our rubber industry on the Far East. Natural rubber production had been seriously set back during the war years, both through actual damage to the plantations and through neglect. Immediately after the war, programs were mounted to bring the plantation industry to its feet.

This year the plantations will produce about 2 million long tons of natural rubber. Yet across the world this year total rubber usage will be almost twice this figure. In the United States alone, 1.6 million long tons will be used. Other countries of the Free World will consume 1.9 million long tons, and it is estimated that Soviet bloc usage will amount to .4 million long tons, to bring the total to 3.9 million.

Of the 1.6 million long tons that will be used in the United States this year, approximately 72 per cent will be synthetic. This makes the U. S. A. the largest user of synthetic rubber in the world.

Research in synthetic rubber has now led to the development of six basic types of rubber and hundreds of variations. This means that synthetics can be tailored to specific end uses. In 1961, the industry will begin substantial production of the two newest synthetic types. Called stereo regulars, the new varieties approximate natural rubber in molecular structure.

Emphasis on synthetic rubber research has also become a springboard for diversification within the industry. Synthetic rubbers are

"big-molecule" polymers, and are made by the same basic techniques used to make many plastics. This similarity of production techniques has put most rubber companies into the plastics business. In fact, some of the major plastic developments of recent years—such as the ABS plastics, which are essentially combinations of rubber and plastics—have come from the laboratories of the rubber industry.

To give you some insight into what a major rubber company is planning this year, let me quote some statistics on U. S. Rubber's 1961 projects.

In 1961 our company will spend $53 million to intensify research and development work and to modernize and expand manufacturing and distribution facilities. Of this sum, $30 million will go into modernization and expansion—20 per cent more than in 1960.

Listed for expansion are facilities producing synthetic rubber, plastics, chemicals and synthetic fibers. Particular emphasis will be placed on quality control through automation of our tire production systems and improving the nationwide distribution of our tires.

New Processes

Of the $23 million U. S. Rubber expects to spend on research and development projects during this year, a major portion will be invested in the development of new manufacturing processes, new fibers and more versatile types of rubber and plastics. Individual projects will range from tire automation to components for solid fuel rockets.

Our company is also participating with the Borden Co. in the construction of a $50 million complex of chemical plants in Geismar, La., to convert hydrocarbons into raw materials to produce plastics, resins and other chemical products.

Our company has also joined with Witco Chemical Co. to form a new company, called Sto-Chem Ltd., which will construct a $2.5 million plant in England to produce synthetic rubber latex. This plant, with an 8 million-pound annual capacity, is expected to be completed in the fall of this year.

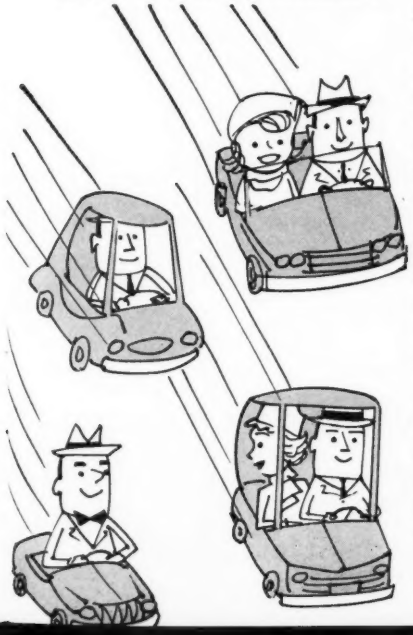
More recently, U. S. Rubber has joined with four other companies to form Petroquimica Argentina S. A., which will construct a $70 million complex in Argentina to supply that country's major needs for synthetic rubber, benzene and chemical intermediates. Work on this project will probably get under way during the first quarter of this year, and the nine inter-related plants are scheduled for completion at intervals ranging from 18 to 36 months. Other participants in this project are Cities Service Co., Continental Oil Co., Witco Chemical Co. and Fish International Corp.

There is a brief, but significant, word that could be used to sum up these activities. That word is: "Growth"—a term that is the key to understanding the American rubber industry today.

AUTO STOCKS TOP VOLUME LEADERS

AUTOMOBILE shares, for the third year running, paced the list of most active issues traded on the New York Stock Exchange in 1960.

American Motors took the No. 1 spot with turnover of 13,205,900 shares, followed by Studebaker-Packard Corp. with 12,558,100 shares. This represented a switch from 1959 when Studebaker nosed out American for first place. The totals for each issue in 1960 included old and new issues.



General Motors Corp., fifth in 1959, moved up to No. 4 on volume of 7,176,120. Further down the line, Ford Motor Co. ranked 12th with 4,613,415 shares.

Total reported volume in 1960 amounted to 766,693,818 shares. (Reported volume is the number of shares which appears on the ticker tape. It does not include, for instance, odd lots.) This was a decline of 53,602,461 shares, or 6.5 per cent, from 1959.

Despite the decline, however, 1960 volume was still the fifth largest on record, exceeded only in 1928, 1929, 1930, and 1959.

Turnover for the 50 most active issues alone amounted to 205,764,659 shares, or 26.8 per cent of total reported volume. The percentage was just a shade lower than 27.1 for 1959.

A total of 19 issues appeared in the 1960 most active list which did not rank among the top 50 in 1959. Brunswick Corp., Nafi Corp. and Ampex Corp. rated sixth, seventh and eighth respectively last year.

The other 16, in order of rank, were: Universal Match Corp., Gulf Oil Corp., Standard Kollsman Industries, Inc., Universal Oil Products Co., Pfizer & Co., Westinghouse Electric Corp., Collins Radio Co., American Machine & Foundry,

General Instrument Corp., American Can Co., Automatic Canteen Co. of America, El Paso Natural Gas Co., Crowell-Collier Publishing Co., General Time Corp., Standard Oil Co. of California and Lionel Corp.

The 19 stocks which failed to make the grade, in order of their 1959 ranking were: Allegheny Corp., General Tire & Rubber, Raytheon Co., Pan American World Airways, New York Central R.R., Pennsylvania R.R., Texas Gulf Sulphur, Oliver Corp., Curtiss-Wright, Budd Co., Textron Inc., Amer. Rad. & Standard Sanitary, General Dynamics, P. Lorillard, Martin Co., Olin Mathieson Chem., Allis-Chalmers Mfg., Monsanto Chemical and Armour & Co.

In the table below, the figure in parenthesis after the name of a stock denotes its 1959 volume rating if it was one of the 50 most active issues that year.

50 MOST ACTIVE STOCKS
BASED ON THE 1960 REPORTED VOLUME FOR ISSUES LISTED ON DECEMBER 30, 1960

Issue	1960 Volume	Issue	1960 Volume
American Motors Corp. (2)..	13,205,900*	Elec. & Musical Ind., Ltd. (17)	3,320,200*
Studebaker-Packard Corp. (1)	12,558,100*	Royal Dutch Petrol. Co. (11)	3,183,500
Standard Oil Co. (N.J.) (3)..	9,477,107	Lockheed Aircraft Corp. (30).	3,161,000
General Motors Corp. (5)...	7,176,120	Standard Kollsman Ind., Inc.	3,128,900
Gen'l Tel. & Elec. Corp. (31).	6,290,900	Universal Oil Products Co. .	3,120,300
Brunswick Corporation.....	6,055,100*	Chrysler Corp. (25).....	3,092,800
Nafi Corporation.....	6,023,300	Pfizer (Chas.) & Co., Inc. ..	2,895,500
Ampex Corporation.....	5,964,700*	Westinghouse Elec. Corp. ..	2,874,500*
American Tel. & Tel. Co. (8).	5,388,242	Soc'y Mobil Oil Co., Inc. (26)	2,840,400
Avco Corporation (6).....	5,080,200	Philco Corp. (46).....	2,820,600
Fairbanks Whitney Corp. (22)	4,633,500	Collins Radio Co.	2,774,200
Ford Motor Company (10)..	4,613,415	American Mach. & Found. Co.	2,769,700
Bethlehem Steel Corp. (15).	4,516,600	General Instrument Corp. ..	2,663,600
Radio Corp. of America (23).	4,507,275	Benquet Consol., Inc. (27)..	2,659,100
Sperry Rand Corp. (7).....	4,401,100	American Can Co.	2,655,600
Int'l Tel. & Tel. Corp. (16)..	4,115,600	Automatic Canteen Co.	2,643,700
Aluminium Ltd. (4).....	4,048,100	El Paso Natural Gas Co. ...	2,594,900*
Universal Match Corp.	3,917,400*	Fruehauf Trailer Co. (13)....	2,454,300
U. S. Steel Corp. (24).....	3,912,100	Crowell-Collier Publishing Co.	2,443,700
Gulf Oil Corp.	3,734,600*	American Airlines, Inc. (36).	2,434,000
Hupp Corporation (29).....	3,613,000	General Time Corp.	2,428,300*
Thiokol Chemical Corp. (9)..	3,611,300	North Amer. Av't'n, Inc. (39)	2,411,500
General Electric Co. (37)...	3,599,500	Burlington Ind., Inc. (32)..	2,325,500
Glen Alden Corp. (12).....	3,580,000	Standard Oil Co. of Calif. ..	2,301,600
Boeing Airplane Co. (28)....	3,472,500	Lionel Corp.	2,271,600
		Total	205,764,659

* Old and new issues combined.

A LOOK AT THE ODD-LOT INVESTOR

By MARVIN L. KRASNANSKY

HOW good an investor is the odd-lotter?

It's about as easy to arbitrate this argument as it is to try to settle the question "Who was better, Ruth or Cobb?" which is sure to crop up when baseball fans gather about a hot stove.

Both questions seem to defy an answer acceptable to all the combatants. But it does seem fairly safe to say that over the long term odd-lot investors do as well as any other group. And perhaps a little better.

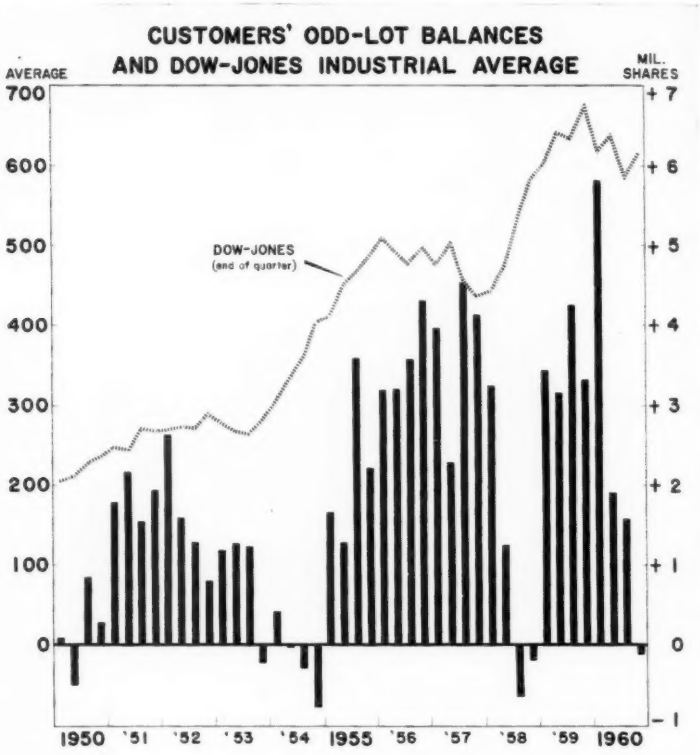
Historically, odd-lotters—people whose transactions involve one to 99 shares of an issue trading in 100-share units—are buyers. That is, they buy more shares than they sell. So, when odd-lotters turn about and sell more shares than they buy—as they did last December for the first time since November, 1958—their activities are subjected to special attention.

Odd-lot sales in December topped purchases by more than 1,120,000 shares, the biggest such monthly margin since December, 1941, when the United States entered World War II. But for all of 1960 buying exceeded selling by about 9,193,000 shares. Indeed, odd-lot purchases have topped sales in 10 of the past 11 years—1951 being the only exception.

As the chart on the next page shows, stock prices as measured by the Dow-Jones Industrial average rose to 615 at the close of 1960 from 200 at the end of 1949 in the biggest and longest bull market in history.

In the 11-year period studied odd-lotters came into the market in greater numbers than ever before. When this is weighed against the background of a sharply rising market it would appear to lend support to those market observers who believe that while odd-lotters as a group may be slow to anticipate important shifts in the market, they have demonstrated good long-term judgment.

This is supported by the evidence that the odd-lotter is largely a long-term investor and that he



concentrates on the stocks of established, better-grade companies.

For example, of the 25 stocks that have topped the odd-lot list in volume from 1957 through 1960, these nine issues have made the list in all four years: American Telephone & Telegraph, Bethlehem Steel, Columbia Gas, Ford, General Dynamics, General Motors, Socony Mobil, Sperry Rand and Standard Oil (N. J.).

A study conducted by the Stock Exchange in October, 1957, the most recent date for which such figures are available, found that about 80 per cent of odd-lot transactions by the public were for investments of more than six months.

The short-range trends of odd-lot transactions have always had a special place, going far beyond their relation to total volume, with students of the stock market. This is so because odd-lot figures are a unique measure of investment sentiment. In round-lot transactions, shares change hands between a

buyer and a seller; thus, for every buyer, there is a seller.

Odd-lot investors, on the other hand, do not buy from or sell to one another. Instead their orders are serviced by odd-lot dealers who stand ready to buy or sell, for their own accounts, odd-lots in any stock at any time. In a given trading day, for example, odd-lot dealers might handle orders to buy 21,373 shares of General Motors and to sell 13,152 GM shares. Thus, for the day, odd-lotters would have purchased 11,221 more GM shares than were sold.

Those who watch the trends in odd-lot statistics believe that in the great majority of turning points in the market odd-lotters as a group are slow to anticipate changes. They emphasize, however, that they do not mean odd-lotters are wrong in the sense of selling at the bottom of the market and buying at the top. In fact, followers of the theory believe odd-lotters always buy as prices decline from a high, but they say the key question is the timing of their actions.

For example, when prices decline, the first inclination is to buy, they say, because stocks look cheap in relation to where they were selling a short time before. However, these theorists believe, a continued decline shakes confidence, and the buying decreases. This they interpret as an indication the decline is over. However, even the odd-lot theorists look to other indicators.

It may turn out later, say the theorists, that odd-lotters were "right" in buying while the market was declining but "wrong" in buying too early. The theory also says that selling by odd-lotters normally is a short-run phenomenon which signals a turn in the market.

This is illustrated in the chart, which shows more odd-lot sales than purchases in the final quarter of 1953 as the market turned around from a small decline and started a sharp climb. Sales topped purchases in three of the next four quarters as the rise continued.

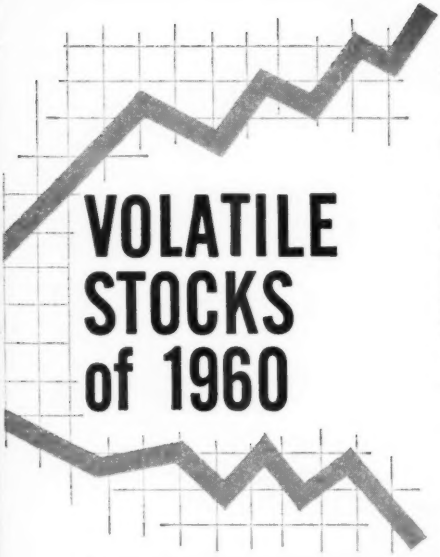
Some observers, though, raise this question: "What's wrong with selling during a period of rising prices and taking a profit?"

It's also well to keep in mind that most odd-lotters are long-term investors and, on average, they've generally done well over the years.

The pattern of 1953-54 repeated itself in 1957-58. As the average started to decline in the second half of 1957, odd-lot buying rose, then started to fall as the drop in prices continued. Sales exceeded purchases in the third quarter of 1958 as the average turned around and started on another steep rise.

Since the odd-lot theory is a product of the human mind, it is fallible and subject to misinterpretation, even by the experts. For a brief period in July, 1958, some of the experts misinterpreted their data and forecast a market decline. Instead, the market rose.

This calls to mind a piece of old but nonetheless sound advice for investors: There is no foolproof formula for investing.



VOLATILE STOCKS of 1960

THE stock market during 1960 followed a highly erratic course and, on average, closed the year with a net loss.

But—to emphasize the point that investors are buying and selling individual issues rather than the averages—six issues listed on the Exchange showed price gains of more than 100 per cent during 1960. Gains for the 20 most volatile issues on the upside ranged from 61 per cent to 135.6 per cent.

Price losses for the 20 most volatile issues on the downside were, of course, smaller on a percentage basis—ranging from 47.9 per cent to 67.8 per cent. After all, the price of any stock can't decline

20 LISTED COMMON STOCKS WHICH SCORED LARGEST PERCENTAGE PRICE DECLINES IN 1960

Issue	1960 Reported Share Volume	Closing Market Price 1960	Closing Market Price 1959	Per Cent Decrease
Studebaker-Packard Corp.	12,558,100*	$ 7	$21¾	67.8
Case (J. I.) Co.	1,650,100	8⅛	20½	60.4
Capital Airlines, Inc.	630,000	5⅜	13¼	57.5
Manati Sugar Co.	88,900	1⅝	3⅝	55.2
Dayco Corporation	475,100	14⅓	31a	54.4
Admiral Corporation	909,400	10¾	23½	54.3
Colorado Fuel & Iron Corp.	1,334,800	14⅜	31⅜a	54.2
Checker Motors Corp.	675,800	17⅝	37⅛	52.5
Lehigh Valley Industries, Inc.	1,073,500	1¼	2⅝	52.4
Chicago Yellow Cab Co., Inc.	6,280	15½	32½	52.3
National Theatres & Television, Inc.	1,082,600	5⅛	10⅜a	50.6
Reading Co.	204,200	8¼	16⅝	50.4
Atlas Corporation	1,671,800	3⅛	6¼	50.0
Rheem Manufacturing Co.	914,600	13¾	27⅜	49.8
I-T-E Circuit Breaker Co.	519,100	21⅝	43	49.7
Northwest Airlines, Inc.	609,600	15⅝	30⅞	49.4
United Industrial Corporation	1,012,200	5	9⅞a	49.4
New York Shipbuilding Corp.	131,100	13	25⅝	49.3
General Time Corp.	2,428,300*	14¾	28⅜a	48.0
Firth Carpet Co.	315,200	6⅛	11¾	47.9

* Old and new volume combined. a Adjusted for stock dividends or splits.

more than 100 per cent while gains are theoretically unlimited.

The figures in the tables below show, at best, a tenuous relationship between volume and volatility. Studebaker-Packard, for instance, showed the largest loss at 67.8 per cent—and this issue was the second most active stock in 1960.

Chicago Yellow Cab, tenth largest loser, dropped 52.3 per cent—but volume was a mere 6,280 shares. Twelve of the 20 largest percentage losers had volume of less than 1,000,000 shares each and half of the 12 had turnover of less than 500,000 shares.

The largest percentage gainer was Chock Full O'Nuts, up 135.6 per cent on turnover of 1,523,500 shares—a volume which was not large enough to rank the issue among the 50 most active in 1960.

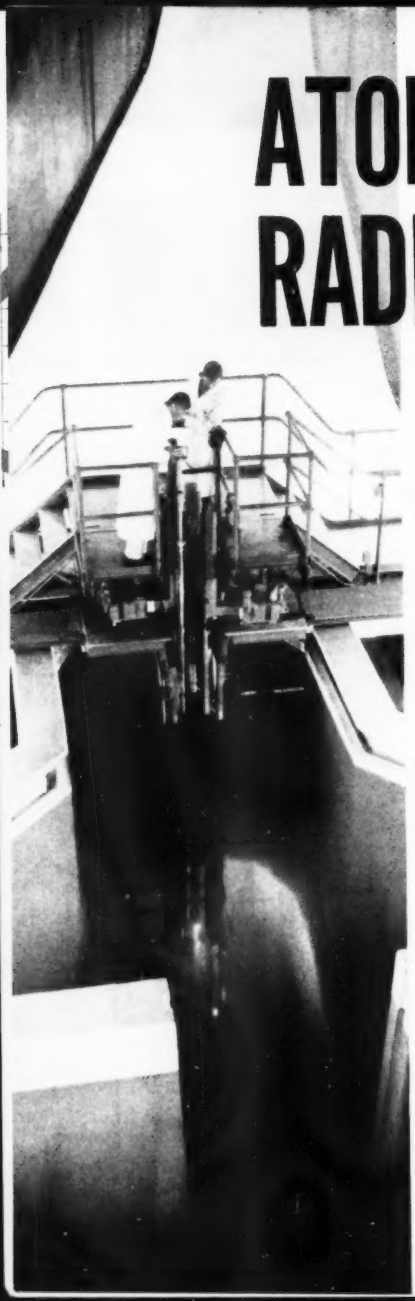
On the other hand, 7 of the 20 largest percentage gainers had turnover in excess of 2,000,000 shares each and all 7 were among the 50 most active stocks. Brunswick, second biggest gainer, had volume of 6,055,100 shares.

Universal Picture, ninth largest gainer, moved up on turnover of only 45,600 shares. Sweets Co. of America, rated 16th among the gainers, had turnover of just 25,600 shares. Montecatini rated 13th on 182,400 shares.

20 LISTED COMMON STOCKS WHICH SCORED LARGEST PERCENTAGE PRICE GAINS IN 1960

Issue	1960 Reported Share Volume	Closing Market Price 1960	Closing Market Price 1959	Per Cent Increase
Chock Full O'Nuts Corp.	1,523,500*	$25⅝	$10⅞a	135.6
Brunswick Corporation	6,055,100*	49⅞	21⅜a	133.3
Nafi Corporation	6,023,300	31	13⅝	127.5
Lionel Corp.	2,271,600	27⅛	12¼	121.4
Decca Records, Inc.	1,841,700	38⅝	17¾	117.6
Crowell-Collier Publishing Co.	2,443,700	39⅝	19¾a	100.6
Korvette, (E. J.) Inc.	1,579,400	33½	17¼	94.2
Minute Maid Corporation	1,511,800	36¼	18¾	93.3
Universal Pictures Co., Inc.	45,600	52½b	27⅝	90.0
Universal Match Corp.	3,917,400*	62¾	34⅜a	82.5
American Machine & Foundry Co.	2,769,700	87⅝	49½	77.0
Monterey Oil Co.	1,779,500	40	23	73.9
Montecantini Mining & Chemical Co.	182,400*	36⅞	21½a	71.5
Adams-Millis Corp.	540,300*	35⅞	21⅝a	65.9
Standard Kollsman Industries, Inc.	3,128,900	26¾	16⅜a	63.4
Sweets Co. of America (The), Inc.	25,600	44	27b	63.0
Shattuck (Frank G.) Co.	570,100	26⅛	16⅛a	62.0
Amer. Broadcasting-Paramount Thrs.	1,041,400	45¾	28¼a	61.9
TelAutograph Corporation	1,785,100	14¾	9⅛	61.6
Underwood Corporation	1,670,500	47½	29½	61.0

* Old and new volume combined. a Adjusted for stock dividends or splits.
b Closing Bid December 30, 1960 or December 31, 1959.



ATOMIC RADIATION

AND THE INVESTING PUBLIC— AN INDUSTRY PROBLEM

By KEN MCKENNA

THE atomic energy industry is spoiling for a fight, but the coming battle will be without rancor and the most violent action will be the firing off of an educational press release. What's more, a victory would have a salubrious effect on both sides—the industry and the public.

For an industry that daily deals with irascible atoms, the problem now facing it might appear comparatively easy to solve. Yet in this case, atomic energy companies are combatting an intangible opponent—the public's false fear over the dangers of atomic radiation—and the very lack of substance poses the difficulty.

Recent studies have shown that the better people understand atomic energy, the more readily they will accept its industrial and military applications. But general knowledge of the field is usually

limited to atomic bombs and stories of radiation poisoning. This is akin to the mention of electric power evoking immediate images in the public mind of electric chairs and accidental electrocutions.

The attitude has led the investing public to ignore the possibilities of the atomic field. Far worse, the unrealistic view is hampering and slowing down development of this new source of energy. The dangers were summed up by Dr. Lyman R. Fink, general manager of the atomic products division of General Electric Co.:

"While the government, electric utilities and the manufacturers will continue to be prime forces behind atomic energy development, public consciousness is becoming a measurable influence on these groups, and in a potentially negative way—negative in the sense that while we can never expect the public to add impetus to nuclear development and applications, these efforts could be blocked through a lack of understanding and acceptance."

For whatever reasons, the public has shown signs of shunning an industry that can hardly avoid growing into one of the keystones of the economy. The uses of atomic energy are as varied as the atoms themselves, and the search for applications has just begun. Radioisotopes are in daily use in hundreds of hospitals. In industry radioactive tracers speed production of such diverse items as soap, paint, toothpaste and plastics.

But the best hope for atomic power lies in the electric utility industry where one day it will provide the major part of the energy needed in the manufacture of electricity.

Atoms = Electricity

"We're going to have to face the fact that we're running out of fossil products (coal, oil and gas) a lot faster than we're running out of the fissionable stuff that can also create heat, and therefore boil water into steam, and therefore turn turbines and make electricity," Dr. John R. Dunning, of Columbia University's College of Engineering, declared.

"By 1980," he added, "we'll have accepted atomic power utilities plants as routine. By the year 2,000 we won't be able to get along without them."

Consider the size of the utility industry in the United States and one can readily see the implication of Dr. Dunning's observation. Electric companies now have a capital investment of $43,000,000,000, in 1960 they spent $3,500,000,000 in plant and equipment, and figure that by 1970 they will have to spend $6,500,000,000 annually to keep up with demand.

The inevitability of the Atomic Age has been for the most part lost on the public. People have been too busy watching missiles, too infatuated with electronics to notice. Behind this blindness, industry observers believe, lurks an unthinking fear of atomic radi-

ation. As atomic power plants begin to dot the land (there are seventeen built, under construction or planned), public apprehension grows. The recent radiation accident resulting from an explosion at the Atomic Energy Commission's National Reactor Testing Station in Idaho hardly helped to allay the fears, even though the industry has an outstanding safety record.

The public is unaware that the Idaho station is operated primarily as a huge experimental laboratory where nuclear devices are put through unusual paces to determine minimum standards of safety.

Inform the Public

The atomic energy industry is mobilizing for an integrated and intensified—and much needed—educational program. Ever since 1954 when the government gave private companies the main responsibility for taming the atom, the industry has tried to keep the public informed. The leading utilities sponsor a continuing public information program. Manufacturers like Westinghouse Electric Corp. and General Electric cater to public opinion with the care of a political candidate. But now the pace will be stepped up.

GE became acutely aware of the problem as a result of a survey which was conducted last year. While the study showed that 62 per cent of those questioned thought atomic energy should be used to produce electricity, some 6 per cent disagreed, expressing "unremitting fear of atomic energy in any form," and another 32 per cent were noncommittal.

Citizen Atom

The big electrical manufacturer opened an educational campaign built around an emblem designated "Citizen Atom, Your Partner in Progress," which the company hopes will be employed industry-wide in promulgating literature and information on peaceful atomic energy uses.

An all-out assault on the public's squeamishness over radiation is an essential part of the program. The versatility of the atom, the good works of radiation are constant themes. And, of course, the emphasis is on safety.

Edison Electric Institute, which represents most of the nation's investor-owned utilities, produces a continual stream of information to publicize the industry's progress in controlling atomic energy. One report noted:

"The relatively insignificant radiation coming from luminous dials and television sets will probably be greater than the average radiation from nuclear power operations in the United States during the next several decades."

E.E.I. also pointed out that even if world atomic power operations increase rapidly, their average radiation will be far less than that from natural sources, such as cosmic rays and minerals in the earth, and much less than radiation from medical and dental procedures.

As for radioactive wastes from nuclear electricity plants, the association could find no reason for impeding large scale atomic power generation. A study showed that removal of wastes would not be expensive and the likelihood they could be passed off into the area about the plant was slight.

The industry's prize showcase has been at Shippingport, Pa., site of the first sizable nuclear plant to produce electricity for civilian use. Despite fears of some residents, electricity from the experimental station behaved no differently from that produced by burning coal and oil. It certainly did not smack of radiation. And nothing like a nuclear accident has occurred in three years of operation.

Meanwhile, the atomic energy companies are trying to build an industry that right now is more future than present. In 1960 two huge power plants went into operation and an order was placed for a 360,000 kilowatt station, the largest nuclear plant yet envisioned.

Statistics in this young industry are one of its shortcomings, but the latest figures compiled by the Atomic Industrial Forum, an association of business organizations in the atomic energy field, showed sales and deliveries of $1,500,000,000 worth of nuclear reactors, components and services in the five years from 1954 to 1958. Of prime importance was the fact that close to half of the volume, $650,000,000, came in 1958, the last year included.

Kingpins in the burgeoning industry are the manufacturers that supply electrical equipment for utilities and a few giant newcomers who hope to break into the lucrative utility market—companies like GE, Westinghouse, Babcock & Wilcox, Allis-Chalmers and General Dynamics. They all agree with the year-end statement of Mark W. Cresap, Jr., President of Westinghouse, that nuclear power has "the greatest potential of any area in the electrical industry."

But there are also between seventy-five and 100 smaller companies engaged in the manufacture of radiation instrument or instrument components. For them, and others involved in the multitudinous industrial aspects of atomic energy, growth appears to be a certain prospect. In the five-year period covered in the Industrial Forum survey, $224,000,000 was spent on research and development by the 191 companies reporting. When these heavy expenditures begin to search out all the capabilities of atomic energy, the pay-off will be incalculable in industrial progress and public benefits.

COMMON DIVIDENDS AT NEW HIGH

IN 1960, for the first time in history, cash dividends paid to owners of common stocks listed on the New York Stock Exchange edged close to $10 *billion*.

Last year's total of $9,371,603,250 in cash common dividends represented:

¶ The largest sum in common dividends ever paid in one year by listed companies.

¶ An increase of 5.3 per cent—or about half a billion dollars—over payments by the same companies in 1959.

¶ The thirteenth year in the past 14 that cash common dividends hit a new high. The exception occurred in 1958 when total dividends showed a one per cent dip from 1957.

The year-to-year gain was based on a comparison of dividend payments made in 1960 and 1959 by all issues listed on the Exchange at the end of 1960.

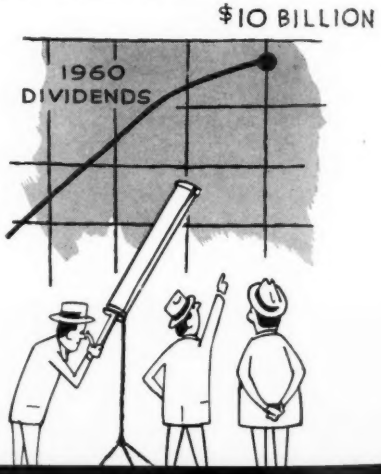
Any payments made in either year were included in the annual totals, regardless of listing date.

Several factors are reflected in 1960's record-breaking common dividend total. There was a substantial increase in the number of listed companies with common issues—1,126 issues at the end of 1960 compared with 1,092 a year earlier. Total assets of listed companies increased during 1960 which, generally, generated a larger earnings potential.

Slightly more than 87 per cent —or 981—of the common stocks listed at yearend paid one or more cash dividends during 1960. Larger dividends were paid by 528 issues while 348 paid the same amount. Smaller payments were made by 105 issues.

In the table the 126 issues paying less includes 21 stocks which made no cash payments last year but which did pay in 1959.

All but three of the 25 industrial groups made larger total dividend payments in 1960 than in 1959. Largest decline on a percentage basis was posted for shipbuilding & operating companies—although a year earlier this same group scored the greatest year-to-year *advance*. Aircraft stocks were



CASH DIVIDENDS PAID ON N.Y.S.E. LISTED COMMON STOCKS 1960 VS 1959

	Listed Issues 12/30/60	Number Paying 1960	More	Same	Less	Payments	Per Cent Change
Aircraft	37	31	14	11	8	$ 140,459,440	−10.0
Amusement	17	13	7	6	1	41,308,950	+10.3
Automotive	55	49	27	15	10	807,405,320	+ 4.5
Building	43	38	19	10	10	167,893,810	+ 0.3
Chemical	100	95	55	36	5	1,151,051,080	+ 4.1
Electrical	58	41	20	14	9	440,632,660	+ 6.9
Financial	46	37	21	10	7	239,488,160	+12.0
Foods & Commodities	82	73	44	20	10	396,822,140	+ 6.4
Leather	10	8	5	3	1	26,803,800	+15.3
Machinery	136	113	57	42	15	524,658,930	+11.4
Mining	42	31	11	16	4	259,283,720	− 0.3
Office Equipment	11	6	3	1	4	25,645,990	+ 0.4
Paper & Publishing	40	37	20	15	2	208,063,050	+ 6.6
Petrol & Nat Gas	48	43	18	22	3	1,486,257,620	+ 2.7
Railroad & R R Equip.	60	46	13	26	8	351,595,210	+ 5.2
Real Estate	10	9	8	1	—	24,903,980	+22.1
Retail Trade	65	61	33	22	6	415,072,160	+ 6.4
Rubber	14	14	7	3	4	102,341,960	+ 9.0
Services	15	15	10	5	—	42,868,480	+13.2
Shipbuilding & Oper.	11	10	2	5	4	20,896,900	−29.2
Steel & Iron	38	35	15	15	5	522,007,070	+ 2.1
Textile	39	32	21	10	3	81,496,250	+23.4
Tobacco	13	13	10	2	1	142,013,950	+ 7.6
Utilities	113	112	81	30	1	2,079,454,710	+ 7.4
Foreign Stocks	23	19	7	8	5	173,177,910	+ 6.7
	1126	981	528	348	126	$9,871,603,250	+ 5.3

down 10 per cent and mining issues a picayune .3 of one per cent.

Leading the list with an advance of 23.4 per cent were textile shares. Close behind were real estate stocks with a gain of 22.1 per cent, followed by the leather group, up 15.3 per cent, and service issues (such as advertising and laundry companies), up 13.2 per cent.

For the first time, common dividends paid by a single industrial group crossed the $2 billion mark. Utility issues disbursed $2,079,454,710. Payments by two other groups—petroleum & natural gas stocks and chemicals—exceeded $1 billion each. Common payments by the combined three groups totaled $4.7 billion or 47.8 per cent of last year's total payments.

Only three industrial groups had perfect dividend records. At least one cash common dividend was paid in 1960 by all rubber, service and tobacco issues.

Utilities—second largest group in terms of number of companies—came close to perfect with 112 out of 113 making one payment or more.

FIRST 1961 NEW LISTINGS

MOUNTAIN FUEL SUPPLY CO., Salt Lake City, Utah, a natural gas utility, was the first company to be listed on the Exchange this year. Trading in the company's 2,133,333 common shares of $10 par value (Ticker symbol: MFS), started January 9. The first transaction was at $29.37 a share.

The company produces and purchases gas in northwestern Colorado, southwestern Wyoming and northeast Utah and transports it to market through pipelines it owns and operates. During the 12 months ended last September, Mountain Fuel sold about 77 billion cubic feet of gas to approximately 164,100 customers. Of this total, 163,710 were residential and small commercial users, 263 industrial and 127 large industrial. In that period, 49 per cent of the gas sold was purchased from pipelines and 51 per cent was produced or bought in the field by the company.

Mountain Fuel also produces and sells crude oil.

Mountain Fuel Supply Co. has paid 64 consecutive dividends since its organization on May 7, 1935, with payments on a quarterly basis since 1953. The rate was increased to 35 cents a share from 30 cents with the latest payment in December, 1960. Dividends totaled $1.25 a share in 1960.

Net income for the nine months ended September 30, 1960, rose to $2,694,672, or $1.23 a share, from $2,533,196, or $1.16 a share, in the comparable 1959 period.

* * * *

AVNET ELECTRONICS CORP., Westbury, N. Y., joined the Big Board December 30, the last addition to the list in 1960. Trading in 1,936,664 now issued common shares of 5 cents par value opened at a price of $19.62. (Symbol: AVT). There are 1,210 shareowners.

Avnet was incorporated in 1955. The company and its subsidiaries assemble and process electrical connectors and distribute a wide variety of other components.

In December, 1960, British Industries Corp.—which markets high fidelity and stereophonic equipment, as well as boats, marine hardware and die casting equipment—was merged into Avnet. It now operates as a division.

Offices and plants are located in Westbury, Chicago, Los Angeles, Port Washington, N. Y., Sunnyvale, Calif., and River Edge, N. J.

In the fiscal first quarter ended September 30, pro forma combined net income of Avnet and British Industries was $303,365, or 16 cents a share, and net sales were $3,812,185, compared with net of $368,290, or 19 cents a share, and sales of $3,872,034 in the like period a year earlier.

Avnet paid a 7 per cent stock dividend on its common stock at the end of the fiscal year ending June 30, 1959 and 4 per cent at the end of fiscal 1960.

BURNDY CORP., Norwalk, Conn., listed its 1,171,626 now issued common shares, par value of $1. on the Exchange on January 12. The initial trade (Symbol: BDC) was recorded at $27.50 a share.

A leading maker of electrical connectors employed in defense, electronic and utilities industries, Burndy was incorporated in 1924 and has 4,500 shareholders.

The company was a pioneer in the solderless electrical connector field and its shipments have risen sharply in recent years. During the first nine months of 1960, shipments totaled $27,305,641 and net earnings were $1,053,767, or 91 cents a share. This compared with shipments of $21,173,161 and net of $717,493, or 69 cents a share, in the same 1959 period.

Quarterly dividends of 15 cents a share have been paid without interruption since December, 1956.

In recent years, Burndy has greatly expanded its sales and distribution facilities in Canada, Western Europe and the British Commonwealth. It also is participating in jointly-owned companies that will manufacture and sell Burndy products in parts of the Commonwealth and in France, Mexico and Brazil. Plants of the parent and its divisions are located in Norwalk, New York, Los Angeles, Toledo, Milford and North Haven, Conn., and Toronto.

* * * *

GREEN SHOE MANUFACTURING CO., Boston, is a leading manufacturer of children's shoes, marketed under the registered name of "The Stride Rite Shoe."

The company (Symbol: GSR) listed its 1,151,869 shares of common stock, par value $3, on the Exchange January 20. The opening price was $27.

Organized in 1919, Green Shoe has its plant and headquarters in Boston. The company reports it has 2,614 shareholders.

The Stride Rite line caters to the shoe needs of youngsters from the time they are first able to walk until they are 12 to 14 years old. The line is distributed through about 1,100 retailers across the United States, and Green Shoe claims its 1959 dollar sales were the highest for any manufacturer engaged exclusively in making children's shoes.

Shipments in fiscal 1960 totaled 5,072,000 pairs. The company maintains an inventory of between 600,000 and 1,000,000 pairs of finished shoes to enable it to meet orders promptly for all sizes and styles.

In fiscal 1960 ended last November, earnings applicable to common rose to $1,746,000, or $1.57 a share, from $1,696,000, or $1.53 a share, in fiscal 1959. Net sales last year increased to a record $23,379,000 from $21,846,000 a year earlier.

Cash dividends have been paid since 1942 and have been declared semi-annually for the past five years. Payments in fiscal 1960 totaled 66 cents a share.

YIELDS **LOW**— BUT TENDING UPWARD

A two-year trend toward lower median yields on dividend-paying common stocks listed on the Big Board was broken in 1960 when yields rose to 4.2% at year-end.

The year-end figure compares with 3.8% at the close of 1959, 4.1% at the end of 1958 and 6.1% at year-end 1957. The 1960 median yield was, however, the fourth lowest in the 21 years for which such figures have been compiled.

Median yield is the point at which half the yields are above it and half below.

A stock's yield is determined, of course, by dividing the total cash payments for a year by the market price. For example: ABC common, selling at $100 at year-end and having paid cash dividends totaling $5 in the preceding 12 months, would yield 5%. If the market price should decline to $50 by the end of the following year and the annual dividends cut to $2.50, the yield would remain 5%. On the other hand, if dividends remained at $5, the yield would rise to 10%.

At the close of 1960 the number of stocks yielding from 3% to 4.9% was 428, or 43.6% of all dividend-payers. This compared with 478, or 50.1% at the end of 1959; 492, or 51.2% at the close of 1958, and 207, or about 21%, at year-end 1957.

However, the number of stocks paying 6% or more at the end of 1960 jumped sharply to 160, more than double the 77 in this class a year earlier. There were 82 such stocks at the end of 1958 and 532 at the close of 1957.

The number of stocks which paid dividends last year rose to 981, and represented the third highest total in the 32 years for which data are available. The 1960 total trailed only the 991 dividend-payers in 1957 and the 982 in 1955.

Here's a breakdown, by year-end yield groups, of listed common stocks that paid dividends for the years 1960 through 1957:

YIELD GROUPS OF DIVIDEND PAYING COMMON STOCKS

	Number of Issues			
Yield Group	**1960**	**1959**	**1958**	**1957**
Less than 2%	84	107	94	27
2 to 2.9%	154	159	131	55
3 to 3.9%	205	232	219	95
4 to 4.9%	223	246	273	112
5 to 5.9%	155	132	162	170
6 to 6.9%	91	48	55	163
7 to 7.9%	42	16	19	144
8 to 8.9%	13	6	3	91
9 to 9.9%	7	1	1	55
10% and over	7	6	4	79
Total Paying	981	953	961	991
Median Yield	4.2%	3.8%	4.1%	6.1%

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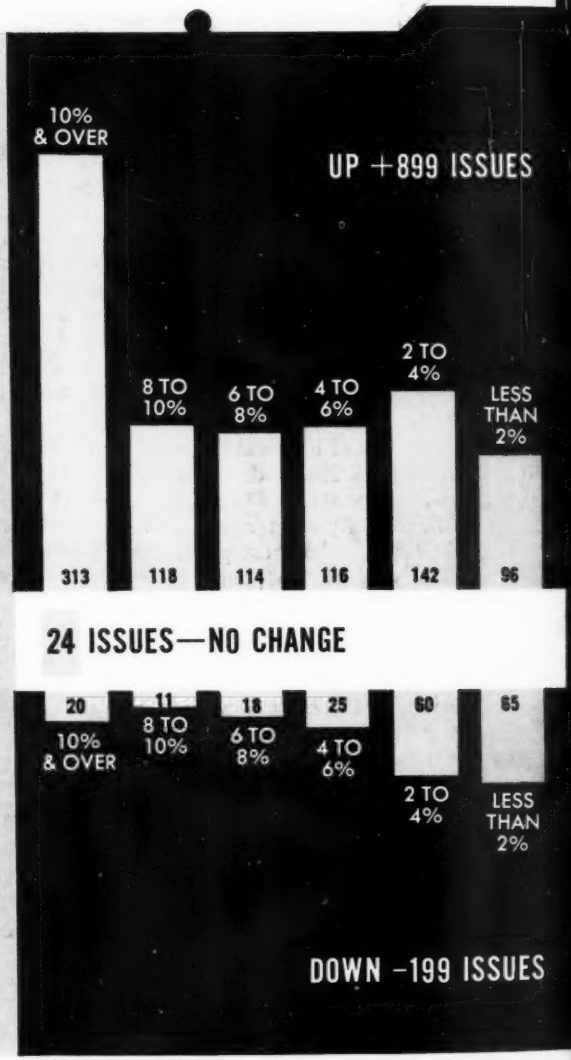
CHANGES IN PRICES OF LISTED COMMON STOCKS

***Distribution of 1122 NYSE Issues By Percentage Price Change in Month Ended* JANUARY 13, 1961**



DOW-JONES
65 - STOCK AVERAGE

DEC. 15	202.58%
JAN. 13	213.23
CHANGE	+5.3%

STANDARD & POOR'S
500-STOCK INDEX

DEC. 15	56.63%
JAN. 13	59.60
CHANGE	+5.2%

UES
LESS
HAN
2%
96
85
ESS
HAN
2%
UES